

Abstract of the Disclosure

POWER SYSTEM AND WORK MACHINE USING SAME

In the present invention, a power system includes at least one hydraulic cylinder that defines a first fluid volume and a second fluid volume separated from one another via a moveable plunger. Hydraulic power created within the hydraulic cylinder is converted to mechanical power by a fluid driven rotating device that is fluidly connected to at least the first fluid volume. A generator is attached to the fluid-driven rotating device, and produces electrical power that is stored in a power storage system including at least one of a battery and a capacitor. The stored electrical power can be supplied to an electric motor that is operable to power a hydraulic pump. The hydraulic pump supplies hydraulic fluid to the hydraulic cylinder. The power system of the present invention is a relatively inexpensive and efficient alternative to a power system including a diesel engine that can be a source of undesirable emissions, noise and vibrations.